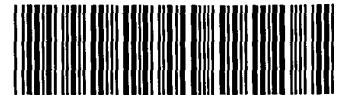


0590
1/25

O I P E

JL 2

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
 TIME: 13:47:22

Input Set : N:\Crf3\RULE60\10016403.txt
 Output Set: N:\CRF3\02102002\J016403.raw

SEQUENCE LISTING

4 (1) GENERAL INFORMATION:

6 (i) APPLICANT: Holladay, Leslie A.
 8 (ii) TITLE OF INVENTION: MODIFICATION OF POLYPEPTIDE DRUGS TO
 9 INCREASE ELECTROTRANSPORT FLUX

11 (iii) NUMBER OF SEQUENCES: 10

13 (iv) CORRESPONDENCE ADDRESS:

14 (A) ADDRESSEE: Stroud, Stroud, Willink, Thompson & Howard
 15 (B) STREET: 25 West Main Street
 16 (C) CITY: Madison
 17 (D) STATE: WI
 18 (E) COUNTRY: USA
 19 (F) ZIP: 53701-2236

21 (v) COMPUTER READABLE FORM:

22 (A) MEDIUM TYPE: Floppy disk
 23 (B) COMPUTER: IBM PC compatible
 24 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 25 (D) SOFTWARE: PatentIn Release #1.0, Version #1.25

27 (vi) CURRENT APPLICATION DATA:

C--> 28 (A) APPLICATION NUMBER: US/10/016,403
 C--> 29 (B) FILING DATE: 10-Dec-2001
 35 (C) CLASSIFICATION:

C--> 32 (vii) PRIOR APPLICATION DATA:

33 (A) APPLICATION NUMBER: 08/466,610
 34 (B) FILING DATE: 1995-JUN-06

36 (viii) ATTORNEY/AGENT INFORMATION:

37 (A) NAME: Frenchick, Grady J.
 38 (B) REGISTRATION NUMBER: 29,018
 39 (C) REFERENCE/DOCKET NUMBER: 8734.28

41 (ix) TELECOMMUNICATION INFORMATION:

42 (A) TELEPHONE: 608-257-2281
 43 (B) TELEFAX: 608-257-7643

46 (2) INFORMATION FOR SEQ ID NO: 1:

48 (i) SEQUENCE CHARACTERISTICS:

49 (A) LENGTH: 174 amino acids
 50 (B) TYPE: amino acid
 51 (D) TOPOLOGY: linear

54 (ix) FEATURE:

55 (A) NAME/KEY: Peptide
 56 (B) LOCATION: 1..174
 57 (D) OTHER INFORMATION: /note= "granulocyte-colony

58 stimulating factor"

61 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

ENTERED

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
TIME: 13:47:22

Input Set : N:\Crf3\RULE60\10016403.txt
Output Set: N:\CRF3\02102002\J016403.raw

63 Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys
64 1 5 10 15
66 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
67 20 25 30
69 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
70 35 40 45
72 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
73 50 55 60
75 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
76 65 70 75 80
78 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
79 85 90 95
81 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
82 100 105 110
84 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
85 115 120 125
87 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
88 130 135 140
90 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
91 145 150 155 160
93 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
94 165 170

96 (2) INFORMATION FOR SEQ ID NO: 2:

98 (i) SEQUENCE CHARACTERISTICS:

99 (A) LENGTH: 174 amino acids
100 (B) TYPE: amino acid
101 (D) TOPOLOGY: linear

104 (ix) FEATURE:

105 (A) NAME/KEY: Peptide
106 (B) LOCATION: 1..174
107 (D) OTHER INFORMATION: /note= "modified granulocyte-colony
108 stimulating factor"

111 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

113 Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro His Ser Phe Leu Leu Lys
114 1 5 10 15
116 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
117 20 25 30
119 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
120 35 40 45
122 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
123 50 55 60
125 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
126 65 70 75 80
128 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
129 85 90 95
131 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
132 100 105 110
134 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
135 115 120 125

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
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Input Set : N:\Crf3\RULE60\10016403.txt
Output Set: N:\CRF3\02102002\J016403.raw

137 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
138 130 135 140
140 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
141 145 150 155 160
143 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
144 165 170
146 (2) INFORMATION FOR SEQ ID NO: 3:
148 (i) SEQUENCE CHARACTERISTICS:
149 (A) LENGTH: 174 amino acids
150 (B) TYPE: amino acid
151 (D) TOPOLOGY: linear
154 (ix) FEATURE:
155 (A) NAME/KEY: Peptide
156 (B) LOCATION: 1..174
157 (D) OTHER INFORMATION: /note= "modified granulocyte-colony
158 stimulating factor"
161 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
163 Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro His Ser Phe Leu Leu Lys
164 1 5 10 15
166 Cys Leu Glu His Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
167 20 25 30
169 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
170 35 40 45
172 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
173 50 55 60
175 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
176 65 70 75 80
178 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
179 85 90 95
181 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu Gln Leu Asp Val Ala Asp
182 100 105 110
184 Phe Ala Thr Thr Ile Trp Gln Gln Met Glu Glu Leu Gly Met Ala Pro
185 115 120 125
187 Ala Leu Gln Pro Thr Gln Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
188 130 135 140
190 Gln Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu Gln Ser Phe
191 145 150 155 160
193 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala Gln Pro
194 165 170
196 (2) INFORMATION FOR SEQ ID NO: 4:
198 (i) SEQUENCE CHARACTERISTICS:
199 (A) LENGTH: 174 amino acids
200 (B) TYPE: amino acid
201 (D) TOPOLOGY: linear
204 (ix) FEATURE:
205 (A) NAME/KEY: Peptide
206 (B) LOCATION: 1..174
207 (D) OTHER INFORMATION: /note= "granulocyte-colony
208 stimulating factor"

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
TIME: 13:47:22

Input Set : N:\Crf3\RULE60\10016403.txt
Output Set: N:\CRF3\02102002\J016403.raw

211 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
 213 Thr Pro Leu Gly Pro Ala Ser Ser Leu Pro Gln Ser Phe Leu Leu Lys
 214 1 5 10 15
 216 Cys Leu Glu Gln Val Arg Lys Ile Gln Gly Asp Gly Ala Ala Leu Gln
 217 20 25 30
 219 Glu Lys Leu Cys Ala Thr Tyr Lys Leu Cys His Pro Glu Glu Leu Val
 220 35 40 45
 222 Leu Leu Gly His Ser Leu Gly Ile Pro Trp Ala Pro Leu Ser Ser Cys
 223 50 55 60
 225 Pro Ser Gln Ala Leu Gln Leu Ala Gly Cys Leu Ser Gln Leu His Ser
 226 65 70 75 80
 228 Gly Leu Phe Leu Tyr Gln Gly Leu Leu Gln Ala Leu Glu Gly Ile Ser
 229 85 90 95
 231 Pro Glu Leu Gly Pro Thr Leu Asp Thr Leu His Leu Asp Val Ala Asp
 232 100 105 110
 234 Phe Ala Thr Thr Ile Trp His His Met Glu Glu Leu Gly Met Ala Pro
 235 115 120 125
 237 Ala Leu His Pro Thr His Gly Ala Met Pro Ala Phe Ala Ser Ala Phe
 238 130 135 140
 240 His Arg Arg Ala Gly Gly Val Leu Val Ala Ser His Leu His Ser Phe
 241 145 150 155 160
 243 Leu Glu Val Ser Tyr Arg Val Leu Arg His Leu Ala His Pro
 244 165 170
 246 (2) INFORMATION FOR SEQ ID NO: 5:
 248 (i) SEQUENCE CHARACTERISTICS:
 249 (A) LENGTH: 34 amino acids
 250 (B) TYPE: amino acid
 251 (D) TOPOLOGY: linear
 254 (ix) FEATURE:
 255 (A) NAME/KEY: Peptide
 256 (B) LOCATION: 1..34
 257 (D) OTHER INFORMATION: /note= "parathyroid hormone"
 260 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
 262 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
 263 1 5 10 15
 265 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
 266 20 25 30
 268 Asn Phe
 271 (2) INFORMATION FOR SEQ ID NO: 6:
 273 (i) SEQUENCE CHARACTERISTICS:
 274 (A) LENGTH: 34 amino acids
 275 (B) TYPE: amino acid
 276 (D) TOPOLOGY: linear
 279 (ix) FEATURE:
 280 (A) NAME/KEY: Peptide
 281 (B) LOCATION: 1..34
 282 (D) OTHER INFORMATION: /note= "modified parathyroid
 283 hormone"
 286 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
TIME: 13:47:22

Input Set : N:\Crf3\RULE60\10016403.txt
Output Set: N:\CRF3\02102002\J016403.raw

288 Ser Val Ser Glu Ile His Leu Met His Asn Leu Gly Lys His Leu Asn
289 1 5 10 15
291 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu Gln Asp Val His
292 20 25 30
294 Asn Phe
297 (2) INFORMATION FOR SEQ ID NO: 7:
299 (i) SEQUENCE CHARACTERISTICS:
300 (A) LENGTH: 34 amino acids
301 (B) TYPE: amino acid
302 (D) TOPOLOGY: linear
305 (ix) FEATURE:
306 (A) NAME/KEY: Peptide
307 (B) LOCATION: 1..34
308 (D) OTHER INFORMATION: /note= "modified parathyroid
309 hormone"
312 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
314 Ser Val Ser Glu Ile Gln Leu Met His Asn Leu Gly Lys His Leu Asn
315 1 5 10 15
317 Ser Met Glu Arg Val Glu Trp Leu Arg Lys Lys Leu His Asp Val His
318 20 25 30
320 Asn Phe
323 (2) INFORMATION FOR SEQ ID NO: 8:
325 (i) SEQUENCE CHARACTERISTICS:
326 (A) LENGTH: 44 amino acids
327 (B) TYPE: amino acid
328 (D) TOPOLOGY: linear
331 (ix) FEATURE:
332 (A) NAME/KEY: Peptide
333 (B) LOCATION: 1..44
334 (D) OTHER INFORMATION: /note= "human growth hormone
335 releasing hormone"
337 (ix) FEATURE:
338 (A) NAME/KEY: Binding-site
339 (B) LOCATION: 44
340 (D) OTHER INFORMATION: /note= "carboxy terminal amide"
343 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
345 Tyr Ala Asp Ala Ile Phe Thr Asn Ser Tyr Arg Lys Val Leu Gly Gln
346 1 5 10 15
348 Leu Ser Ala Arg Lys Leu Leu Gln Asp Ile Met Ser Arg Gln Gln Gly
349 20 25 30
351 Glu Ser Asn Gln Glu Arg Gly Ala Arg Ala Arg Leu
352 35 40
354 (2) INFORMATION FOR SEQ ID NO: 9:
356 (i) SEQUENCE CHARACTERISTICS:
357 (A) LENGTH: 44 amino acids
358 (B) TYPE: amino acid
359 (D) TOPOLOGY: linear
362 (ix) FEATURE:
363 (A) NAME/KEY: Peptide

VERIFICATION SUMMARY
PATENT APPLICATION: US/10/016,403

DATE: 02/10/2002
TIME: 13:47:24

Input Set : N:\Crf3\RULE60\10016403.txt
Output Set: N:\CRF3\02102002\J016403.raw

L:28 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:29 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:32 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]